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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,111	03/23/2006	Keith Trevor Lawes	JESO127081	8750
26389 7590 08/14/2007 CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC 1420 FIFTH AVENUE SUITE 2800 SEATTLE, WA 98101-2347			EXAMINER ALI, HYDER	
			ART UNIT 3747	PAPER NUMBER
			MAIL DATE 08/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,111	Applicant(s) LAWES, KEITH TREVOR	
	Examiner HYDER ALI	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 53-104 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 84-104 is/are allowed.
- 6) ☒ Claim(s) 53-61 and 74-83 is/are rejected.
- 7) ☒ Claim(s) 62-73 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/27/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 60 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 60 recites the limitation "the oil cooling passage or passages" in line 4.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 1. Claims 53,54,56,57 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagiwara (US 5,191,863).**

As to Claim 53, Hagiwara discloses a cooling mechanism for a rotary valve cylinder engine comprising a rotary valve cylinder 3 rotatably mounted within an outer cylindrical valve element 1, the rotary valve cylinder 3 and the outer cylindrical valve element 1 each being formed with a respective valve port 5, the rotary valve cylinder 3 being rotatable relative to the outer cylindrical valve element 1 to a position in which the ports

10, 15 are aligned, the cooling mechanism comprising at least one passage 43 formed in the rotary valve cylinder 3 through which, in use, cooling fluid flows.

As to Claim 54, Hagiwara discloses wherein the rotary valve cylinder 4 comprises a cylindrical cylinder wall in which the fluid cooling passage 43 is formed.

As to Claim 56, Hagiwara discloses wherein the fluid cooling passage 43 extends in a direction substantially parallel to the rotational axis of the rotary valve cylinder 3.

As to Claim 57, wherein the rotary valve cylinder 3 is formed with a plurality of fluid cooling passage 42,43.

2. Claims 53 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Charter (1,649,509)

As to Claim 53, Charter discloses a cooling mechanism for a rotary valve cylinder engine comprising a rotary valve cylinder 22 rotatably mounted within an outer cylindrical valve element 12, the rotary valve cylinder 22 and the outer cylindrical valve element 12 each being formed with a respective valve port, the rotary valve cylinder 22 being rotatable relative to the outer cylindrical valve element 12 to a position in which the ports are aligned, the cooling mechanism comprising at least one passage 30, 32 formed in the rotary valve cylinder 22 through which, in use, cooling fluid flows.

As to Claim 60, Charter discloses wherein the fluid cooling passage 30,32 is defined between an inner cylinder 20 which is received within an outer cylinder 12 to together define the rotary valve cylinder 22, at least one of the inner or outer cylinders 20, 12 being formed with a groove which define the oil cooling passage.

3. Claims 53,55-59,61,74-83 are rejected under 35 U.S.C. 102(b) as being anticipated by Barbagallo et al (GB 2,020,739).

As to Claim 53, **Barbagallo et al** discloses a cooling mechanism for a rotary valve cylinder engine comprising a rotary valve cylinder 2 rotatably mounted within an outer cylindrical valve element 1, the rotary valve cylinder 2 and the outer cylindrical valve element 1 each being formed with a respective valve port 12, 13, the rotary valve cylinder 2 being rotatable relative to the outer cylindrical valve element 1 to a position in which the ports 12,13 are aligned, the cooling mechanism comprising at least one passage 27

formed in the rotary valve cylinder 2 through which, in use, cooling fluid flows.

As to Claim 55, **Barbagallo et al** discloses wherein the fluid cooling passage 27 in the rotary cylinder wall extends substantially along the length of the rotary cylinder wall.

As to Claim 56, **Barbagallo et al** discloses wherein the fluid cooling passage 27 extends in a direction substantially parallel to the rotational axis of the rotary valve cylinder 2.

As to Claim 57, **Barbagallo et al discloses** wherein the rotary valve cylinder 2 is formed with a plurality of fluid cooling passages 27.

As to Claim 58, **Barbagallo et al** discloses wherein the fluid cooling passage 27, when viewed in the direction of the axis of rotation of the rotary valve cylinder 2, extend substantially around the circumference of the rotary valve cylinder wall.

As to Claim 59, **Barbagallo et al** discloses wherein the fluid cooling passage 27 in the rotary cylinder 2 is substantially equispaced around the circumference of the rotary cylinder 2.

As to Claim 61, **Barbagallo et al** discloses wherein the fluid flow path includes passageways formed within the outer cylindrical valve element.

As to Claim 74, **Barbagallo et al** discloses wherein the outer cylindrical valve element is provided with cooling means operative to transfer thermal energy from the fluid to the outer cylindrical valve element and into the air surrounding the second cylindrical valve element.

As to Claim 75, **Barbagallo et al** discloses wherein the cooling means comprises at least one fin 22, 23 extending outwardly from the outer cylindrical valve element.

As to Claim 76, **Barbagallo et al** discloses wherein the cooling means comprises a plurality of fins 22, 23 that are relatively spaced around at least part of the outer cylindrical valve element.

As to Claim 77, **Barbagallo et al** discloses wherein the outer cylindrical valve element is provided with cooling means operative to transfer thermal energy from the fluid to a liquid cooling medium contained in a jacket formed in the outer cylindrical valve element.

As to Claim 78, **Barbagallo et al** discloses wherein the fluid passageways formed in the outer cylindrical valve element are substantially equispaced around the outer cylindrical valve element.

As to Claim 79, Barbagallo et al discloses wherein the outer cylindrical valve element is

provided with cooling means operative to transfer thermal energy from the fluid to a liquid cooling medium contained in a jacket formed in the outer cylindrical valve element.

As to Claim 80, Barbagallo et al discloses wherein the jacket is adjacent the fluid passageways formed in the outer cylindrical valve element.

As to Claim 81, **wherein the liquid cooling medium is a water based cooling medium (optional design choice).**

As to Claim 82, Barbagallo et al discloses wherein the fluid cooling medium is oil.

As to Claim 83, Barbagallo et al discloses wherein the oil is the engine lubrication oil.

Allowable Subject Matter

Claims 84-104 are allowed.

Claims 62-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lawes (US 7,131,405) discloses rotating cylinder valve engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HYDER ALI whose telephone number is (571) 272-4836. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Kirk Cronin can be reached on (571) 272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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